A NEW MILLIPED OF THE GENUS *DELOPHON* FROM MISSISSIPPI (CALLIPODIDA: CASPIOPETALIDAE)[1]

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ABSTRACT: A fourth species of *Delophon, D. mississippianum,* is described and illustrated. It is closely related to *D. georgianum* Chamberlin and *D. serrulatum* Causey, and features a smooth margin on the coxal process, a tibiotarsal process that is homologous to the postfemoral process on the other species, and a parasolenomerite that is longer than the tibiotarsus.

In 1979 I revised the callipodid genus *Delophon* and reported that it was comprised of three species — *georgianum* Chamberlin, *serrulatum* Causey, and *holti* Shelley — in Tennessee, North Carolina, Georgia, and Alabama. Recently, while sorting through the diplopod collection of the Missisippi Entomological Museum, Mississippi State University, I discovered a single male of a fourth species from the northern part of that state. I present herein a description of the new species along with a new generic distribution map and phylogeny, to supplement information in the revision. I thank Dr. Richard L. Brown, Director of the Mississippi Entomological Museum, for the opportunity to describe this species and permission to deposit the holotype in the invertebrate primary type collection of the North Carolina State Museum of Natural History (NCSM).

Delophon mississippianum, new species
Figs. 1-3

Type specimen: Male holotype (NCSM A3983) collected by W.H. Cross, 9 May 1980, form a pitfall trap in deciduous woods, 1.6 km SE Ecru, Pontotoc Co., Mississippi.

Diagnosis: A small species of *Delophon* distinguished by following features of male gonopods: distal elements forming approximately 90 degree angle with femur; coxal process with apical lobes on medial and lateral sides of femur, distal margins smooth; with tibiotarsal process representing postfemoral process of *georgianum;* parasolenomerite comparatively large, longer than tibiotarsus, bent slightly dorsad distal to midlength, subparallel to tibiotarsus; solenomerite short, blunt, arising from parasolenomerite at midlength, located between latter and tibiotarsus, without subterminal spur.

Holotype: Length about 18 mm, greatest width about 1.1 mm, ca. 43 segments. Dorsum light mottled brown in color, with wide, light yellow middorsal stripe extending from 2nd segment to epiproct; pore crests faintly yellow anteriad and brown caudad, thus forming two less distinct stripes equidistant of median one. Epicranium dark mottled brown, interantennal

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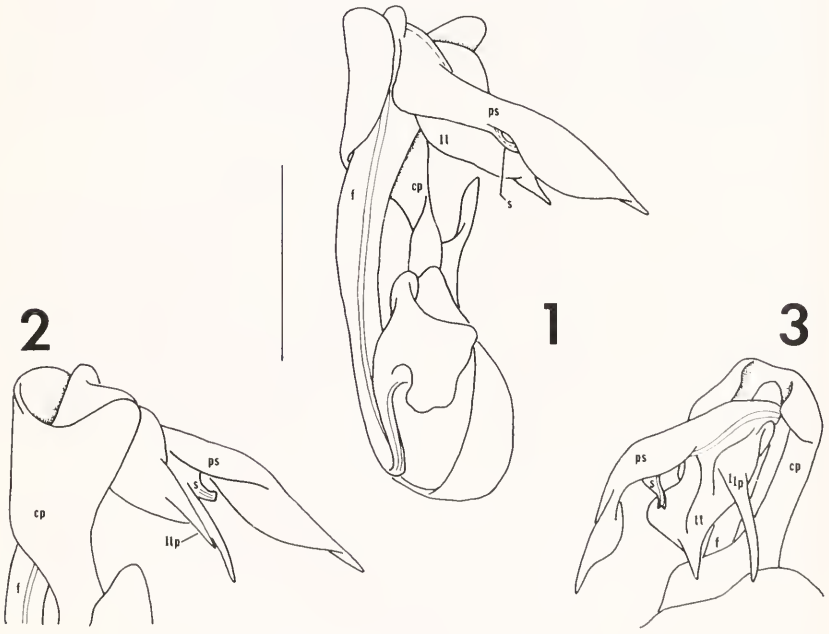
region lighter, color fading out in clypeal region. Antennae long and slender, extending beyond caudal margin of segment 5; relative lengths of antennomeres 3 > 2 > 5 > 4 > 6 > 7 > 1, 2-6 clavate. About 34 ocelli in subtriangular patches.

Collum with 22 crests beginning near midlength, medial crests slightly shorter than lateral ones, anterior half of collum smooth. Secondary crests subequal in length to, but noticeably smaller than, primary crests on all segments, fading out around segment 27. Setal formula normal for genus.

Gonopods (Figs. 1-3) small, femur extending caudad only to metazonite of segment 8; parasolenomerite extending laterad to edge of body. Coxal process very broad, sheathing femur, expanded apically into two lobes on medial and lateral sides of distal extremity of femur, apical margins smooth. Postfemur nearly perpendicular to femur, of normal length relative to distal elements. Tibiotarsus shorter than parasolenomerite, angling abruptly caudad apically and narrowing into spiniform projection, inner margin with broad lobe at level of solenomerite, with spiniform process proximad, homologous to postfemoral process of *georgianum*. Parasolenomerite relatively long, longer than tibiotarsus, bent dorsad just beyond midlength (level of solenomerite), with broad rounded lobe distad on dorsal margin, narrowing abruptly apically into spiniform projection. Solenomerite a short, blunt, bisinuately curved structure arising near midlength of parasolenomerite, located between latter and tibiotarsus, expanded slightly apically, without subterminal spur.

Distribution: Known only from the type locality.



Figs. 1-3. *Delophon misissippianum*. 1, left gonopod, caudal view. 2, right gonopod, ventral view. 3, left gonopod, lateral view. cp, coxal process; f, femur; ps, parasolenomerite; s, solenomerite; tt, tibiotarsus, ttp, tibiotarsal process; Scale line = 0.50 mm for all figs.

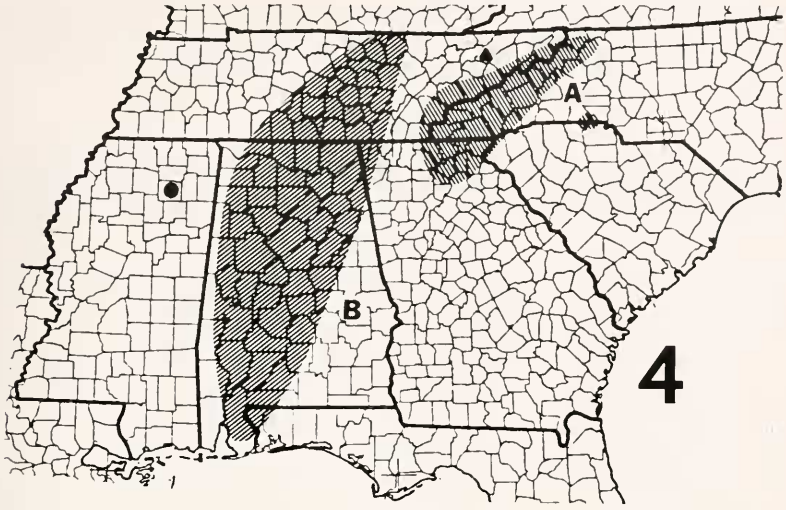


Fig. 4. Distribution of *Delophon*. A smooth curve has been drawn around the range extremes of *georgianum* and *serrulatum*. A, *georgianum;* B, *serrulatum;* dot, *mississippianum;* triangle, *holti*.

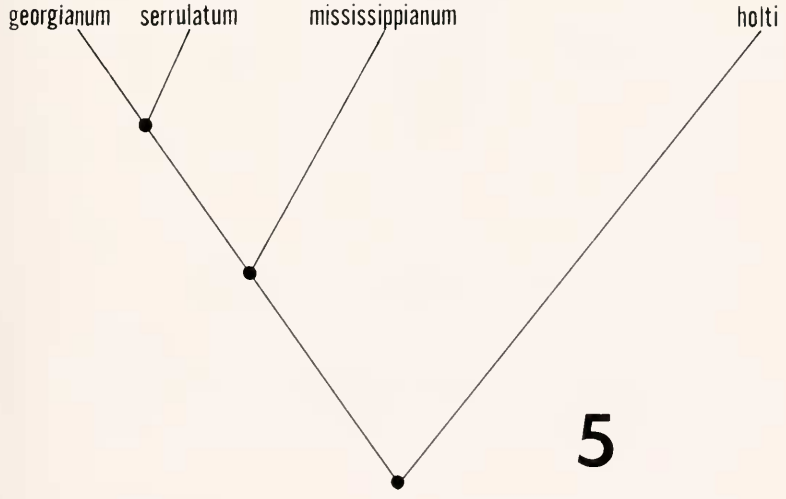


Fig. 5. Relationships in the genus *Delophon*.

Remarks: One of the main diagnostic traits of *mississippianum* is the location of a process on the proximal part of the tibiotarsus, which is similar in form to, and undoubtedly homologous to, the postfemoral process of *georgianum.*

At first glance the parasolenomerite and tibiotarsus appear to be reversed in *mississippianum,* in comparison to *georgianum* and *serrulatum.* The longer parasolenomerite is similar to the tibiotarsi of the other species, and the tibiotarsus of *mississippianum* is likewise similar in length to their parasolenomerites. The origin of the solenomerite, however, is the key factor in identifying the projections, and as in *georgianum* and *serrulatum,* it arises from the more caudal of the two in *mississippianum.* Thus in this species, the parasolenmerite is longer than the tibiotarsus.

Figure 4 shows the type locality of *mississippianum* along with known ranges of its congeners. It is the westernmost species, occurring some 60 miles west of the nearest known record of *serrulatum,* in Franklin County, Alabama. The distribution of *mississippianum* in Mississippi is a subject for future investigation, and the species may also be found in western Tennessee.

Although similar in size to *holti, mississippianum* is a product of the *georgianum-serrulatum* branch of evolution (Fig. 5). It has the general gonopodal form of these two species, so *holti* still stands by itself as representing a second line of descent. However, the unexpected discovery of *mississippianum* suggests that more species of *Delophon* may occur in the southeast and that a sister species for *holti* may eventually be discovered. The most probable area for such a form is northeastern Tennessee, western Virginia, and eastern Kentucky.

LITERATURE CITED

Shelley, Rowland M. 1979. A revision of the milliped genus *Delophon,* with the proposal of two new tribes in the subfamily Abacioninae (Callipodida: Caspiopetalidae). Proc. Biol. Soc. Wash., *92:* 533-550.

SOCIETY MEMBER HONORED

Dr. Hal C. Reed, a member of the American Entomological Society, and a contributing author to ENTOMOLOGICAL NEWS, is the 1982 recipient of the Entomological Society of America Pacific Branch Graduate Student Award. This award is given annually to promote interest in the science of entomology at the graduate level.

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